Xerox Docket No. D/A0A96

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Robert C. YU et al.

On Appeal from Group: 1733

Application No.: 09/683,326

Examiner: J. Haran

Filed: December 14, 2001

Docket No.: 118093

For: FABRICATION METHOD FOR AN ELECTROSTATOGRAPHIC MEMBER HAVING A VIRTUAL FLEXIBLE SEAMLESS SUBSTRATE

RESUBMISSION OF APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Resubmitted herewith are copies of our Brief on Appeal and Appeal Brief Transmittal that were originally filed on November 17, 2004, in the above-identified application. Also attached hereto is a copy of the stamped receipt indicating that these documents were received by the U.S. Patent and Trademark Office on November 17, 2004.

Based on the fact that these documents were originally filed with in two months of the date on which the Notice of Appeal was filed, it is respectfully submitted that no extension of time is needed. However, the Commissioner is hereby authorized to grant any necessary extension and to charge Deposit Account No. 24-0037 for any necessary fee in order to effect proper filing of this Brief.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

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Date: January 18, 2005

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DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
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APPEAL BRIEF TRANSMITTAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached hereto is a copy of our Brief on Appeal in the above-identified application.

The Commissioner is hereby authorized to charge Deposit Account No. 24-0037 in the amount of Three Hundred Forty Dollars ($340.00) in payment of the Brief fee under 37 C.F.R. 1.17(f). In the event of any underpayment or overpayment, please debit or credit our Deposit Account No. 24-0037 as needed in order to effect proper filing of this Brief.

For the convenience of the Finance Division, two additional copies of this transmittal letter are attached.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Melanie L. McCollum
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JAO:MLM/jam

Date: November 17, 2004

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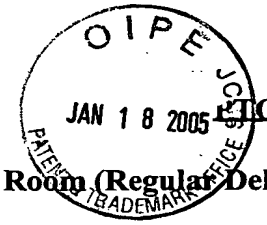

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The following papers have been filed:

Appeal Brief Transmittal; Appeal Brief

Name of Applicant: Robert C. YU et al.

Serial No.: 09/683,326

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BRIEF ON APPEAL

Appeal from Group 1733

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TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is Xerox Corporation, by way of an Assignment recorded in the U.S. Patent and Trademark Office at Reel 012238, Frame 0485.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings, known to Appellants, Appellants' representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-18 and 20-22 are on appeal.

Claims 1-18 and 20-22 are pending.

No claims are allowed, or are objected to only for being dependent from a rejected base claim, but are otherwise allowable.

Claims 1-18 and 20-22 are rejected.

No claims are withdrawn from consideration.

Claims 19 and 23-25 are canceled.

IV. STATUS OF AMENDMENTS

An Amendment After Final Rejection was filed on July 29, 2004. By an Advisory Action dated August 13, 2004, it was indicated that the requested amendments had been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention of claim 1 is directed to a seamless flexible electrostatographic imaging member belt fabrication method. The method comprises: providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material; producing first desired features on a first portion of the substrate support sheet, including removing material from the substrate support sheet with first emissions; producing second desired features on a second portion of the substrate support sheet complementary to the first desired features, including removing material from the substrate support sheet with second emissions; overlapping the first and second desired features; bonding the first desired pattern with the second desired pattern to produce a seamed belt; and applying at least one coating to the seamed belt. Page 12, lines 28-page 13, line 4 (¶[0040]; page 11, lines 23-30 (¶[0037]); page 18, line 26-page 19, line 7 (¶[0062]; page 34, lines 5-6 (claim 19).

Claims 8 further defines the method of claim 1. In particular, claim 8 recites that the method further comprises coating the seamed belt with a photoconductive material. Page 13, lines 18-19 (¶[0040]).

The invention of claim 11 is directed to a seamless flexible electrostatographic imaging member belt fabrication method. The method comprises: providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogeneous material; illuminating a first part of the substrate support sheet with a laser beam to produce first desired features on the substrate support sheet, wherein the first desired features include portions of the substrate support sheet from which material has been removed; moving the substrate support sheet relative to the laser beam such that a desired first pattern is fabricated along a first edge of the substrate support sheet; illuminating a second part of the substrate support sheet with a laser beam to produce second desired

features on the substrate support sheet, wherein the desired features include portions of the substrate support sheet from which material has been removed; moving the substrate support sheet relative to the laser beam such that a second desired pattern is fabricated along a second edge of the substrate support sheet; overlapping and bonding the first desired pattern with the second desired pattern to produce a seamed belt; and coating the seamed belt with a photoconductive material. Page 12, lines 8-27 (¶[0039]); page 11, lines 23-30 (¶[0037]); page 18, line 26-page 19, line 7 (¶[0062]; page 34, lines 5-6 (claim 19).

The invention of claim 16 is directed to a seamless flexible electrostatographic imaging member belt fabrication method. The method comprises: providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material; bombarding a first portion of the substrate support sheet with first emissions to produce first desired features; bombarding a second portion of the substrate support sheet with second emissions to produce second desired features complementary to the first desired features; overlapping the first and second desired features; bonding the first desired features with the second desired features to produce a seamed belt having substantially no increase in belt thickness at the seam; and applying at least one coating to the seamed belt. Page 12, lines 8-27 (¶[0039]); page 11, lines 23-30 (¶[0037]); page 18, line 26-page 19, line 7 (¶[0062]; page 34, lines 5-6 (claim 19).

Claims 18 and 20 further define the method of claim 16. In particular, claim 18 recites that applying at least one coating includes applying a photoconductive coating. Page 13, lines 18-19 (¶[0040]). In addition, claim 20 recites that the flexible substrate sheet is a sheet of PET (poly(ethylene terephthalate)). Page 19, line 11 (¶[0063]); page 20, lines 6-11 (¶[0064]).

The invention of claim 21 is directed to a seamless flexible electrostatographic imaging member belt fabrication method. The method comprises: providing a flexible

substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material; producing first desired features on a first portion of the substrate support sheet, including removing material from the substrate support sheet with first emissions; producing second desired features on a second portion of the substrate support sheet complementary to the first desired features, including removing material from the substrate support sheet with second emissions; overlapping the first and second desired features; bonding the first desired features with the second desired features to produce a seamed belt having substantially no increase in belt thickness at the seam; and applying at least one coating to the seamed belt, the at least one coating including a photoconductive coating. In the method, the removing material from the substrate with first and second emissions includes inducing a desired shape in at least one of the first and second emissions by passing the at least one of the first and second emissions through at least one mask, and the removing material from the substrate with first emissions further includes inducing relative motion between the laser beam and the substrate support sheet. Page 12, line 28-page 13, line 19 (¶[0040]); page 12, lines 19-22 (¶[0039]; page 11, lines 23-30 (¶[0037]); page 18, line 26-page 19, line 7 (¶[0062]; page 34, lines 5-6 (claim 19).

All of the claims refer to a seamless flexible electrostatographic imaging member belt fabrication method. As recited in independent claims 1, 11, 16 and 21, the belt formed from the flexible substrate support sheet has a seam. However, the coating applied thereto is seamless. Thus, although the flexible substrate support does have a seam, the resulting imaging member belt is effectively seamless. Page 18, line 26-page 19, line 7 (¶[0062]).

Upon reviewing the specification, one of ordinary skill in the art would understand that the word "seamless" is used in the claims, not to refer to a belt that has no seam in any layer thereof. Instead, the term "seamless" should clearly be interpreted based on the specification to read on a belt containing at least one seamless coating layer on a seamed

substrate support, such that the belt, in its entirety, acts as a seamless belt. Page 18, line 26-page 19, line 7 (¶[0062]).

The independent claims also all recite that the flexible substrate support sheet is a single layer of substantially homogenous material. As described in the present specification at paragraph [0037], laser ablation of a multiple layered material poses problems with proper absorption of laser energy. In contrast, the laser ablation of a homogenous material does not provide these problems. Thus, the present inventors found that utilizing the present process not only provides the improved seamed features provided by applying a layer over a seamed layer, it also provides an improved seamed layer since the problems associated with the laser ablation of multiple layered materials are also avoided. Page 11, lines 23-30 (¶[0037]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

Claims 1-12, 14, 16-18 and 20-22 are rejected under 35 U.S.C. §103 over U.S. Patent No 5,688,355 to Yu in view of U.S. Patent No. 5,997,974 to Schlueter et al.

Claims 13 and 15 are rejected under 35 U.S.C. §103 over U.S. Patent No 5,688,355 to Yu in view of U.S. Patent No. 5,997,974 to Schlueter et al. and further in view of U.S. Patent No. 5,549,193 to Schlueter et al.

VII. ARGUMENT

U.S. Patent No 5,688,355 to Yu (hereinafter "Yu") cannot properly be combined with U.S. Patent No. 5,997,974 to Schlueter et al. (hereinafter "Schlueter '974") in order to render claims 1-18 and 20-22 obvious. In addition, even as improperly combined, Yu, Schlueter '974 and U.S. Patent No. 5,549,193 to Schlueter et al. (hereinafter "Schlueter '193") fail to teach or suggest all of the features of claims 1-18 and 20-22.

A. Claims 1-12, 14, 16-18 and 20-22 Would Not Have Been Obvious Over Yu in View of Schlueter '974

Claims 1-12, 14, 16-18 and 20-22 are rejected under 35 U.S.C. §103 over Yu in view of Schlueter '974. However, Yu cannot properly be combined with Schlueter '974 in order to render obvious the methods of claims 1-12, 14, 16-18 and 20-22. In addition, even if improperly combined, Yu and Schlueter '974 do no teach or suggest all of the features of claims 1-12, 14, 16-18 and 20-22.

1. Claims 1-12, 14, 16-18 and 20-22

Claims 1, 11, 16 and 21 are independent. Claims 2-10 depend from claim 1 either directly or indirectly. Claims 12 and 14 depend from claim 11 either directly or indirectly. Claims 17, 18 and 20 directly depend from claim 16. Claim 22 directly depends from claim 21.

Claims 1, 11, 16 and 21 are each directed to a method for fabricating a seamless flexible electrostatographic imaging member belt. In each of claims 1, 11, 16 and 21, the method comprises: providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material; producing, overlapping and bonding features on the flexible substrate support sheet to form a seamed belt; and applying at least one coating to the seamed belt. Claims 1, 11, 16 and 21 differ, *inter alia*, in the way in which the seamed belt is formed from the flexible substrate support sheet.

a. Yu Does Not Teach All of the Features of Claims 1-12, 14, 16-18 and 20-22

Yu is directed to a method for making a seamed flexible belt in which a flexible sheet having all of the layers of the belt to be formed undergoes ablation. A first marginal end region of the flexible belt is then overlapped with a second marginal end region and fused to form a seamed belt. Col. 8, lines 1-22. Yu does not teach or suggest that the flexible sheet used to from an imaging member is a single layer of substantially homogenous material, as recited in claims 1, 11, 16 and 21. Instead, Yu teaches incorporating the various layers of an electrophotographic imaging member, including both a charge transport layer and a charge generating layer, as well as an anti-curl layer, an adhesive layer, a charge blocking layer and a conductive layer, in the flexible sheet that undergoes ablation. Col. 19, lines 54-63. In addition, Yu does not teach or suggest applying at least one coating on the seamed belt formed thereby, as recited in claims 1, 11, 16 and 21.

b. There Would Have Been No Motivation to Combine Schlueter '974 with Yu in Order to Render Obvious the Methods of Claims 1-12, 14, 16-18 and 20-22

Schlueter '974 is directed to forming a belt by joining two ends of a flexible substrate, each end of the substrate having a plurality of mutually mating elements in a puzzle cut pattern. To form an effectively seamless belt, Schlueter '974 teaches applying an undercoating layer covering the substrate and the bonded seam. Col. 3, lines 40-64. The undercoating layer is applied in order to smooth the seamed surface for application of the charge generating layer and charge transfer layer. Col. 4, lines 23-26. Schlueter '974 provides no motivation to provide a coating layer on the device of Yu where the charge generating layer and charge transport layer are already incorporated into the belt. Thus, there would have been no motivation to combine Schlueter '974 with Yu in order to achieve the invention of claims 1, 11, 16 and 21, in which a coating is applied to a seamed belt.

c. Schlueter '974 Does Not Overcome the Deficiencies of Yu

As discussed above, neither Yu nor Schleuter '974 provide any motivation to apply a coating to the seamed belt formed in Yu. However, even if the references are improperly combined in this way, the combined teachings of these references would not teach or suggest the subject matter of claims 1, 11, 16 and 21 for at least the following reasons.

Claims 1, 11, 16 and 21 each recite that the flexible sheet is a single layer of substantially homogenous material. In contrast, in forming an imaging member, the flexible sheet of Yu that undergoes ablation contains several different layers. Col. 19, lines 54-63. Neither Yu nor Schleuter '974 provide any motivation to modify the teachings of Yu such that the flexible sheet that undergoes ablation is a substantially homogenous material. In particular, neither Yu nor Schleuter '974 teach or suggest that laser ablation of a multiple layered material poses problems with proper absorption of laser energy. Specification, p. 11, ¶[0037]. In fact, Yu teaches away from such a combination by subjecting a flexible sheet having all of the layers of a belt to ablation. Thus, based on the teachings of Yu and Schleuter '974, one of ordinary skill in the art would not have been motivated to subject only one substantially homogenous layer to ablation to form a seamed belt followed by forming all but one layer of a device by coating at least one layer on the seamed belt, as recited in claims 1, 11, 16 and 21.

d. Conclusion

Yu and Schleuter '974 cannot properly be combined in order render claims 1, 11, 16 and 21 obvious. In addition, even if improperly combined, Yu and Schleuter '974 fail to teach or suggest all of the features of claims 1, 11, 16 and 21. Thus, Yu and Schleuter '974 do not render claims 1, 11, 16, and 21 obvious.

Claims 2-10, 12, 14, 17, 18, 20 and 22 each depend from one of claims 1, 11, 16 and 21 either directly or indirectly. Therefore, for at least the same reasons as claims 1, 11, 16 and 21, Yu and Schleuter '974 do not render claims 2-10, 12, 14, 17, 18, 20 and 22 obvious.

2. Claim 8

Claim 8 depends from claim 1 and would therefore not have been obvious over Yu in view of Schleuter '974 for at least the reasons discussed in section 1 above. In addition, claim 8 recites that the method further comprises coating the seamed belt with a photoconductive material.

As discussed above, the imaging belt formed in Yu contains a conductive layer. Neither Yu nor Schleuter '974 provide any motivation to form a photoconductive layer over a belt that already contains a conductive layer. Therefore, for this additional reason, claim 8 would not have been obvious over Yu in view of Schleuter '974.

3. Claims 11, 12 and 14

As discussed above, claim 11 is an independent claim, and claims 12 and 14 depend from claim 11. Claims 11, 12 and 14 would not have been obvious over Yu in view of Schleuter '974 for at least the reasons discussed in section 1 above. In addition to the features discussed above, claim 11 recites coating the seamed belt with a photoconductive material.

As discussed above, the imaging belt formed in Yu contains a conductive layer. Neither Yu nor Schleuter '974 provide any motivation to form a photoconductive layer over a belt that already contains a conductive layer. Therefore, for this additional reason, claim 11, as well as claims 12 and 14, which depend from claim 11, would not have been obvious over Yu in view of Schleuter '974.

4. Claims 16 and 17

As discussed above, claim 16 is an independent claim, and claim 17 depends from claim 16. Claims 16 and 17 would not have been obvious over Yu in view of Schleuter '974 for at least the reasons discussed in section 1 above.

In addition to the features discussed above, claim 16 recites that the seamed belt produced from the flexible substrate support sheet has "substantially no increase in belt thickness at the seam." In contrast, as depicted in Figures 6B, 7B, 8B and 9B of Yu, Yu does not teach or suggest that the seamed belt has "substantially no increase in belt thickness at the seam." In addition, Schleuter '974 cannot be relied upon to overcome this deficiency since Schleuter '974 teaches the use of mutually mating elements in a puzzle cut pattern, which do not overlap. Col. 3, lines 41-51. See also, col. 1, lines 50-65. If the overlapping features of Yu were replaced with the non-overlapping puzzle cuts of Schleuter '974, the resulting process would not teach or suggest the method of claim 16, in which the first and second desired features overlap to formed the seamed belt.

For this additional reason, claim 16, as well as claim 17, which depends from claim 16, would not have been obvious over Yu in view of Schleuter '974.

5. Claim 18

Claim 18 depends from claim 16 and would therefore not have been obvious over Yu in view of Schleuter '974 for at least the reasons discussed in sections 1 and 4 above. In addition, claim 18 recites that the method comprises applying a photoconductive coating to the seamed belt.

As discussed above, the imaging belt formed in Yu contains a conductive layer. Neither Yu nor Schleuter '974 provide any motivation to form a photoconductive coating over a belt that already contains a conductive layer. Therefore, for this additional reason, claim 18 would not have been obvious over Yu in view of Schleuter '974.

6. Claim 20

Claim 20 depends from claim 16 and would therefore not have been obvious over Yu in view of Schleuter '974 for at least the reasons discussed in sections 1 and 4 above. In addition, claim 20 recites that the flexible substrate sheet is a sheet of PET (poly(ethylene terephthalate)).

Neither Yu nor Schleuter '974 teach or suggest that the flexible substrate sheet is a sheet of PET. Therefore, for this additional reason, claim 20 would not have been obvious over Yu in view of Schleuter '974.

7. Claims 21 and 22

As discussed above, claim 21 is an independent claim, and claim 22 depends from claim 21. Claims 21 and 22 would not have been obvious over Yu in view of Schleuter '974 for at least the reasons discussed in section 1 above.

In addition to the features discussed above, claim 21 recites that the seamed belt produced from the flexible substrate support sheet has "substantially no increase in belt thickness at the seam." In contrast, as depicted in Figures 6B, 7B, 8B and 9B of Yu, Yu does not teach or suggest that the seamed belt has "substantially no increase in belt thickness at the seam." In addition, Schleuter '974 cannot be relied upon to overcome this deficiency since Schleuter '974 teaches the use of mutually mating elements in a puzzle cut pattern, which do not overlap. Col. 3, lines 41-51. See also, col. 1, lines 50-65. If the overlapping features of Yu were replaced with the non-overlapping puzzle cuts of Schleuter '974, the resulting process would not teach or suggest the method of claim 21, in which the first and second desired features overlap to formed the seamed belt.

In addition, claim 21 recites that the at least one coating applied to the seamed belt includes a photoconductive coating. As discussed above, the imaging belt formed in Yu

contains a conductive layer. Neither Yu nor Schleuter '974 provide any motivation to form a photoconductive coating over a belt that already contains a conductive layer.

For these additional reasons, claim 21, as well as claim 22, which depends from claim 21, would not have been obvious over Yu in view of Schleuter '974.

8. Conclusion

As recited in section 1 above, Yu cannot properly be combined with Schleuter '974 in order to render obvious the invention of claims 1-12, 14, 16-18 and 20-22. In addition, even if improperly combined, Yu and Schleuter '974 fail to teach or suggest that the flexible substrate support sheet is a single layer of substantially homogeneous material, as recited in claims 1-12, 14, 16-18 and 20-22. Therefore, the rejection of all of claims 1-12, 14, 16-18 and 20-22 under 35 U.S.C. §103 over Yu in view of Schleuter '974 should be withdrawn. In addition, the rejection of claims 8, 11, 12, 14, 16-18 and 20-22 under 35 U.S.C. §103 over Yu in view of Schleuter '974 should also be withdrawn for the reasons discussed in sections 2-7 above.

B. Claims 13 and 15 Would Not Have Been Obvious Over Yu in View of Schlueter '974 and Schlueter '193

Claims 13 and 15 are rejected under 35 U.S.C. §103 over Yu in view of Schlueter '974 and Schlueter '193. However, Yu cannot properly be combined with Schlueter '974 and Schlueter '193 in order to render obvious the methods of claims 13 and 15. In addition, even if improperly combined, Yu, Schlueter '974 and Schlueter '193 do not teach or suggest all of the features of claims 13 and 15.

Claim 13 depends from claim 11. In addition, claim 13 recites that the overlapping and bonding of claim 11 includes placing an adhesive over the first and second patterns and curing the adhesive. Claim 15 depends from claim 13 and therefore indirectly depends from claim 11.

1. Yu Does Not Teach All of the Features of Claim 11

Claim 11 is directed to a method for fabricating a seamless flexible electrostatographic imaging member belt. In claim 11, the method comprises: providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material; producing, overlapping and bonding features on the flexible substrate support sheet to form a seamed belt; and coating the seamed belt with a photoconductive material.

Yu is directed to a method for making a seamed flexible belt in which a flexible sheet having all of the layers of the belt to be formed undergoes ablation. A first marginal end region of the flexible belt is then overlapped with a second marginal end region and fused to form a seamed belt. Col. 8, lines 1-22. Yu does not teach or suggest that the flexible sheet used to from an imaging member is a single layer of substantially homogenous material, as recited in claim 11. Instead, Yu teaches incorporating the various layers of an electrophotographic imaging member, including both a charge transport layer and a charge generating layer, as well as an anti-curl layer, an adhesive layer, a charge blocking layer and a conductive layer, in the flexible sheet that undergoes ablation. Col. 19, lines 54-63. In addition, Yu does not teach or suggest coating the seamed belt with a photoconductive material, as recited in claim 11.

2. There Would Have Been No Motivation to Combine Schlueter '974 with Yu in Order to Render Obvious the Method of Claim 11

Schlueter '974 is directed to forming a belt by joining two ends of a flexible substrate, each end of the substrate having a plurality of mutually mating elements in a puzzle cut pattern. To form an effectively seamless belt, Schlueter '974 teaches applying an undercoating layer covering the substrate and the bonded seam. Col. 3, lines 40-64. The undercoating layer is applied in order to smooth the seamed surface for application of the

charge generating layer and charge transfer layer. Col. 4, lines 23-26. Schlueter '974 provides no motivation to provide a coating layer on the device of Yu where the charge generating layer and charge transport layer are already incorporated into the belt. In particular, Schlueter '974 provides no motivation to coat the seamed belt with a photoconductive material since the belt of Yu already contains a conductive layer. Thus, there would have been no motivation to combine Schlueter '974 with Yu in order to achieve the invention of claim 11, in which the seamed belt is coated with a photoconductive material.

3. Schlueter '974 Does Not Overcome the Deficiencies of Yu

As discussed above, neither Yu nor Schleuter '974 provide any motivation to apply a coating to the seamed belt formed in Yu. However, even if the references are improperly combined in this way, the combined teachings of these references would not teach or suggest the subject matter of claim 11 for at least the following reasons.

Claim 11 recites that the flexible sheet is a single layer of substantially homogenous material. In contrast, in forming an imaging member, the flexible sheet of Yu that undergoes ablation contains several different layers. Col. 19, lines 54-63. Neither Yu nor Schleuter '974 provide any motivation to modify the teachings of Yu such that the flexible sheet that undergoes ablation is a substantially homogenous material. In particular, neither Yu nor Schleuter '974 teach or suggest that laser ablation of a multiple layered material poses problems with proper absorption of laser energy. Specification, p. 11, ¶[0037]. In fact, Yu teaches away from such a combination by subjecting a flexible sheet having all of the layers of a belt to ablation. Thus, based on the teachings of Yu and Schleuter '974, one of ordinary skill in the art would not have been motivated to subject only one substantially homogenous layer to ablation to form a seamed belt followed by forming all but one layer of a device by coating the seamed belt with at least a photoconductive material, as recited in claim 11.

4. Schlueter '193 Does Not Overcome the Deficiencies of Yu in View of Schlueter '974

Claim 13 recites that the overlapping and bonding of claim 11 includes placing an adhesive over the first and second patterns and curing the adhesive. Neither Yu nor Schlueter '974 teach or suggest using an adhesive to adhere overlapping features to form a seamed belt. In the Final Rejection, it is argued that the combination of Schlueter '193 with Yu and Schlueter '974 renders the feature of claim 13 obvious. However, Schlueter '193 does not overcome the other deficiencies of Yu and Schlueter '974 for at least the following reasons.

Schlueter '193 does not provide any motivation to modify Yu such that the flexible substrate support sheet used to form the belt is a single layer of substantially homogeneous material, as recited in claim 11. In particular, Schlueter '193 does not teach or suggest that laser ablation of a multiple layered material poses problems with proper absorption of laser energy. In addition, Schlueter '193 does not provide any motivation to combine the teachings of Yu with the teaching of Schlueter '974. In particular, Schlueter '193 does not provide any motivation to coat the seamed belt of Yu with a photoconductive material.

5. Conclusion

For at least the reasons discussed above, Yu cannot properly be combined with Schleuter '974 in order to render obvious the invention of claim 11. In addition, even if improperly combined, Yu and Schleuter '974 fail to teach or suggest that the flexible substrate support sheet is a single layer of substantially homogeneous material, as recited in claim 11. Furthermore, Schleuter '193 does not overcome the deficiencies of Yu in view of Schleuter '974. Therefore, the rejection of claims 13 and 15, which depend from claim 11 either directly or indirectly, under 35 U.S.C. §103 over Yu in view of Schleuter '974 and Schleuter '193 should be withdrawn.

VIII. CONCLUSION

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that claims 1-18 and 20-22 are in condition for allowance. For all of the above reasons, Appellants respectfully request this Honorable Board to reverse the rejections of claims 1-18 and 20-22.

Respectfully submitted,

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Filed: November 17, 2004

CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. A seamless flexible electrostatographic imaging member belt fabrication method comprising:

providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material;

producing first desired features on a first portion of the substrate support sheet, including removing material from the substrate support sheet with first emissions;

producing second desired features on a second portion of the substrate support sheet complementary to the first desired features, including removing material from the substrate support sheet with second emissions;

overlapping the first and second desired features;

bonding the first desired pattern with the second desired pattern to produce a seamed belt; and

applying at least one coating to the seamed belt.

2. The method of claim 1 wherein removing material from the substrate with emissions includes inducing a desired shape in at least one of the first and second emissions by passing the at least one of the first and second emissions through a mask.

3. The method of claim 2 wherein inducing a desired shape in the emissions further includes passing the at least one of the first and second emissions through at least one additional mask, the at least one additional mask inducing features of the desired shape in the emissions.

4. The method of claim 1 wherein removing material from the substrate with first emissions includes producing a laser beam, passing the laser beam through a mask, and illuminating the first portion of the substrate support sheet with the laser beam.

5. The method of claim 4 wherein removing material from the substrate with first emissions further includes inducing relative motion between the laser beam and the substrate support sheet.

6. The method of claim 1 wherein removing material from the substrate with first emissions includes producing a particle beam, passing the particle beam through a mask, and bombarding the first portion of the substrate support sheet with the particle beam.

7. The method of claim 6 wherein producing a particle beam includes producing an electron beam.

8. The method of claim 1 further comprising coating the seamed belt with a photoconductive material.

9. The method of claim 1 wherein bonding comprises ultrasonically welding.

10. The method of claim 1 wherein the emissions comprise electromagnetic radiation.

11. A seamless flexible electrostatographic imaging member belt fabrication method comprising:

providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogeneous material;

illuminating a first part of the substrate support sheet with a laser beam to produce first desired features on the substrate support sheet, wherein the first desired features include portions of the substrate support sheet from which material has been removed;

moving the substrate support sheet relative to the laser beam such that a desired first pattern is fabricated along a first edge of the substrate support sheet;

illuminating a second part of the substrate support sheet with a laser beam to produce second desired features on the substrate support sheet, wherein the desired features include portions of the substrate support sheet from which material has been removed;

moving the substrate support sheet relative to the laser beam such that a second desired pattern is fabricated along a second edge of the substrate support sheet;

overlapping and bonding the first desired pattern with the second desired pattern to produce a seamed belt; and

coating the seamed belt with a photoconductive material.

12. The method according to claim 11 wherein the illuminating a first part of the flexible substrate support sheet with a laser beam to produce first desired features on the substrate support sheet includes:

generating a laser beam;

spreading the laser beam;

illuminating a patterned mask such that parts of the spread laser beam pass through the mask as machining light; and

directing the machining light onto the first part of the substrate support sheet.

13. The method according to claim 11 wherein the overlapping and bonding includes placing an adhesive over the first and second patterns, and curing the adhesive.

14. The method according to claim 12 wherein the first and second patterns form a rabbeted joint.

15. The method according to claim 13 wherein the first and second patterns form a rabbeted joint.

16. A seamless flexible electrostatographic imaging member belt fabrication method comprising:

providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material;

bombarding a first portion of the substrate support sheet with first emissions to produce first desired features;

bombarding a second portion of the substrate support sheet with second emissions to produce second desired features complementary to the first desired features;

overlapping the first and second desired features;

bonding the first desired features with the second desired features to produce a seamed belt having substantially no increase in belt thickness at the seam; and

applying at least one coating to the seamed belt.

17. The method of claim 16 wherein bombarding a second portion includes bombarding an opposite surface of an opposite end of the sheet.

18. The method of claim 16 wherein applying at least one coating includes applying a photoconductive coating.

19. (Canceled)

20. The method of claim 16 wherein the flexible substrate sheet is a sheet of PET.

21. A seamless flexible electrostatographic imaging member belt fabrication method comprising:

providing a flexible substrate support sheet, wherein the flexible substrate support sheet is a single layer of substantially homogenous material;

producing first desired features on a first portion of the substrate support sheet, including removing material from the substrate support sheet with first emissions;

producing second desired features on a second portion of the substrate support sheet complementary to the first desired features, including removing material from the substrate support sheet with second emissions;

overlapping the first and second desired features;

bonding the first desired features with the second desired features to produce a seamed belt having substantially no increase in belt thickness at the seam; and

applying at least one coating to the seamed belt, the at least one coating including a photoconductive coating;

wherein said removing material from the substrate with first and second emissions includes inducing a desired shape in at least one of the first and second emissions by passing the at least one of the first and second emissions through at least one mask, and

wherein said removing material from the substrate with first emissions further includes inducing relative motion between the laser beam and the substrate support sheet.

22. The method of claim 21 wherein bonding comprises ultrasonically welding.

23-25. (Canceled)

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE